

## Claims

### Listing of Claims

1. (Currently Amended) An isolated aggregated composition comprising:  
(a) [[a]] an isolated polypeptide having transport function of VP22[[.]]; and  
(b) an oligonucleotide, polynucleotide or heterologous polypeptide, wherein the oligonucleotide, polynucleotide or heterologous polypeptide is bound to the isolated polypeptide having transport function of VP22 by a disulfide bond or a cleavage-susceptible bond, and wherein the isolated aggregated composition is as a stable aggregate of a size of 0.1 to 5 microns.
2. (Currently Amended) ~~An~~ The isolated aggregated composition according to claim 1, ~~which further comprises~~ further comprising a pharmaceutically acceptable excipient.
3. (Currently Amended) ~~An~~ The isolated aggregated composition according to claim 1, wherein the polypeptide having transport function of VP22 comprises amino acid residues 159-301 of the amino acid sequence set forth as SEQ ID NO: 12.
4. (Currently Amended) ~~An~~ The isolated aggregated composition according to claim 1, wherein the oligonucleotide or polynucleotide comprises a circular plasmid.
5. (Currently Amended) ~~An~~ The isolated aggregated composition according to claim 1, wherein the oligonucleotide or polynucleotide comprises modified phosphorothioate[[s]] linkages.
6. (Currently Amended) ~~An~~ The isolated aggregated composition according to claim 5, wherein the modified phosphodiester linkages comprise phosphorothioate linkages.
7. (Currently Amended) ~~An~~ The isolated aggregated composition according to claim 1, wherein the oligonucleotide or polynucleotide is labeled with a detectable label.
8. (Currently Amended) ~~An~~ The isolated aggregated composition according to claim 1,

wherein the oligonucleotide or polynucleotide is selected from the group consisting of: an antisense molecule, a ribozyme molecule, a chimero-plast, and a polynucleotide capable of binding a transcription factor.

9. (Currently Amended) ~~An~~ The isolated aggregated composition according to claim 1, wherein the oligonucleotide or polynucleotide encodes a protein or peptide.

10. (Currently Amended) ~~An~~ The isolated aggregated composition according to claim 1, wherein the heterologous polypeptide is a fusion protein comprising a non-VP22 peptide or protein.

11. (Currently Amended) ~~An~~ The isolated aggregated composition according to claim 10, wherein the ~~non-VP22~~ heterologous polypeptide sequence is linked covalently bound to the polypeptide having the transport function of VP22 by a cleavage-susceptible amino acid sequence.

12. (Currently Amended) ~~An~~ The isolated aggregated composition according to claim 1, wherein the heterologous polypeptide is conjugated to a glycoside.

13. (Currently Amended) ~~An~~ The isolated aggregated composition according to claim 1, wherein the oligonucleotide or polynucleotide is coupled to a non-nucleotide molecule.

14. (Currently Amended) ~~An~~ The isolated aggregated composition according to claim 1, wherein the aggregate comprises (a) the polypeptide having transport function of VP22 and (b) the oligonucleotide[, , ] or polynucleotide non-covalently bound to the polypeptide having transport function of VP22 or ~~heterologous polypeptide are present in the isolated aggregated composition at a ratio of 1:1 polypeptide and nucleotide in a ratio of at least 1 to 1.~~

15. (Currently Amended) ~~An~~ The isolated aggregated composition according to claim 1, wherein the oligonucleotide or polynucleotide ~~comprises about~~ is at least 10 bases in length.

16. (Currently Amended) ~~An~~ The isolated aggregated composition according to claim 1,

~~wherein said aggregate disaggregates upon exposure to light which comprises particles of said aggregated composition having a particle size in the range of about 0.1 to about 5 microns.~~

17. (Currently Amended) ~~An~~ The isolated aggregated composition according to claim 1, wherein said polypeptide and said nucleotide are encapsulated in a liposome.

18. (Currently Amended) A method of making an the isolated aggregated composition according to claim 1, comprising[[,]]:

(a) mixing [[a]] the isolated polypeptide with the transport function of VP22, with the isolated oligonucleotide or polynucleotide[[, and,]]at a ratio of 1:1 to 1:2 to form a mixture in vitro;

(b) allowing incubating the mixture obtained in step (a) to form isolated aggregates, thereby making the isolated aggregated composition.

19. (Currently Amended) A method according to claim 18, further comprising monitoring the formation of aggregates using microscopy or electrophoresis wherein the polypeptide is mixed with nucleotide in a ratio of at least 1 to 1 of polypeptide to nucleotide.

20. (Currently Amended) A method of delivering molecules to a cell in vitro comprising (a) contacting said cell with [[an]] the isolated aggregated composition according to claim 1.

21. (Canceled).

22. (Currently Amended) The method of claim 18, wherein the isolated aggregates have a particle size of -about 0.1 to about 5 microns.

23. (Previously Presented) A method of delivering molecules to a cell *in vitro*, comprising

(a) contacting said cell with an aggregated composition comprising (1) a polypeptide having transport function of VP22, and (2) an oligonucleotide or polypeptide; and

(b) exposing the cell to light to promote disaggregation of the aggregated composition; thereby delivering the oligonucleotide or polypeptide to the cell *in vitro*.

24. (New) The purified aggregated composition of claim 16, further comprising a photosensitizing molecule.

25. (New) The purified aggregated composition of claim 1, further comprising a radio-label or a flurochrome label.